

FIG. 1

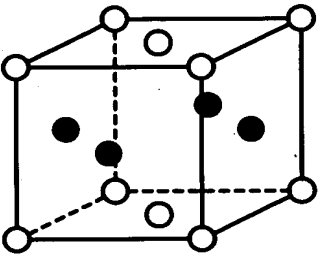
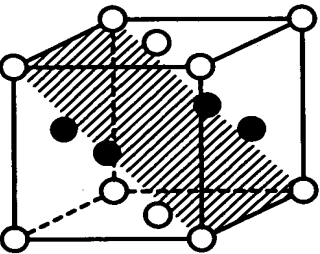
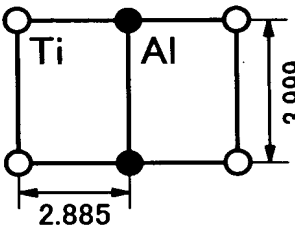
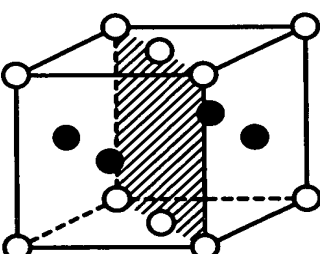
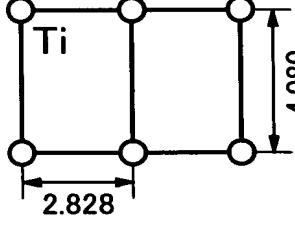
CRYSTAL STRUCTURE	LATTICE PLANE PARALLEL TO THE SUBSTRATE SURFACE (ORIENTATIONAL PLANE)	IN-PLACE CRYSTAL LATTICE
<p><b>L<sub>10</sub> TYPE STRUCTURE</b></p> <p><b>TiAl<sub>50</sub></b></p> <p><math>a=3.999 \text{ \AA}</math></p> <p><math>c=4.080 \text{ \AA}</math></p> <p>○ Ti ATOM</p> <p>● Al ATOM</p>  <p>NUMBER OF ATOMS IN UNIT CELL</p> <p>Ti ATOM : 2</p> <p>Al ATOM : 2</p> <p>COMPOSITION IN UNIT CELL</p> <p>Ti : Al =1:1</p>	<p>(101), (011)</p> 	 <p>Ti : Al =1:1</p>
	<p>(110)</p> 	<p>THIS ORIENTATION IS DIFFICULT</p>  <p>Ti ONLY Al ONLY</p>

FIG. 2

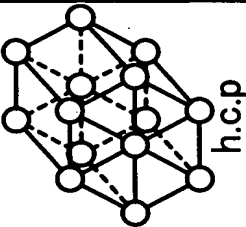
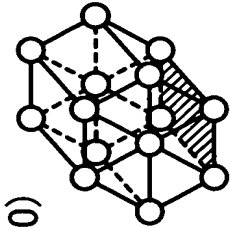
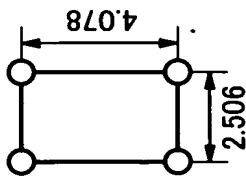
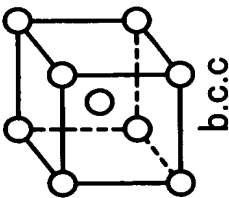
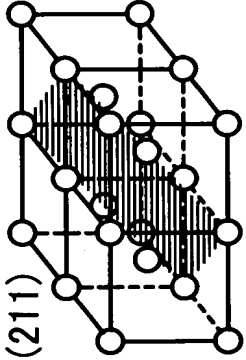
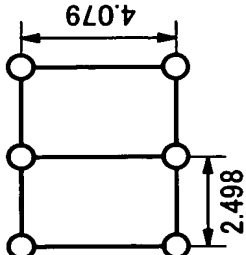
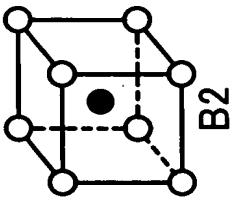
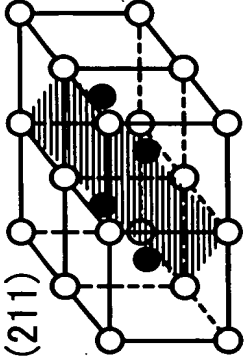
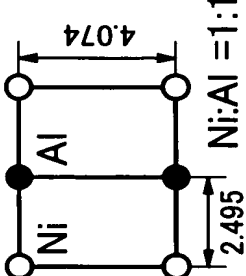
	CRYSTAL STRUCTURE	LATTICE PLANE PARALLEL TO THE SUBSTRATE SURFACE (ORIENTATIONAL PLANE)	IN-PLACE CRYSTAL LATTICE
MAGNETIC LAYER  Co  $a=2.506 \text{ \AA}$ $c=4.078 \text{ \AA}$		 (10.0)	
UNDER LAYER  Cr  $a=2.884 \text{ \AA}$		 (211)	
ORIENTATION CONTROL LAYER HAVING B2 TYPE CRYSTAL STRUCTURE  NiAl <sub>50</sub>  $a=2.881 \text{ \AA}$		 (211)	

FIG. 3

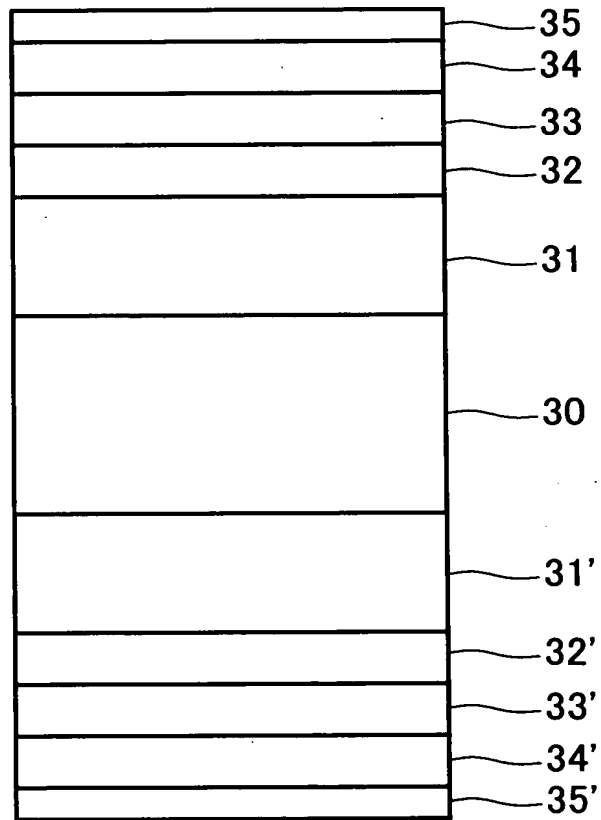
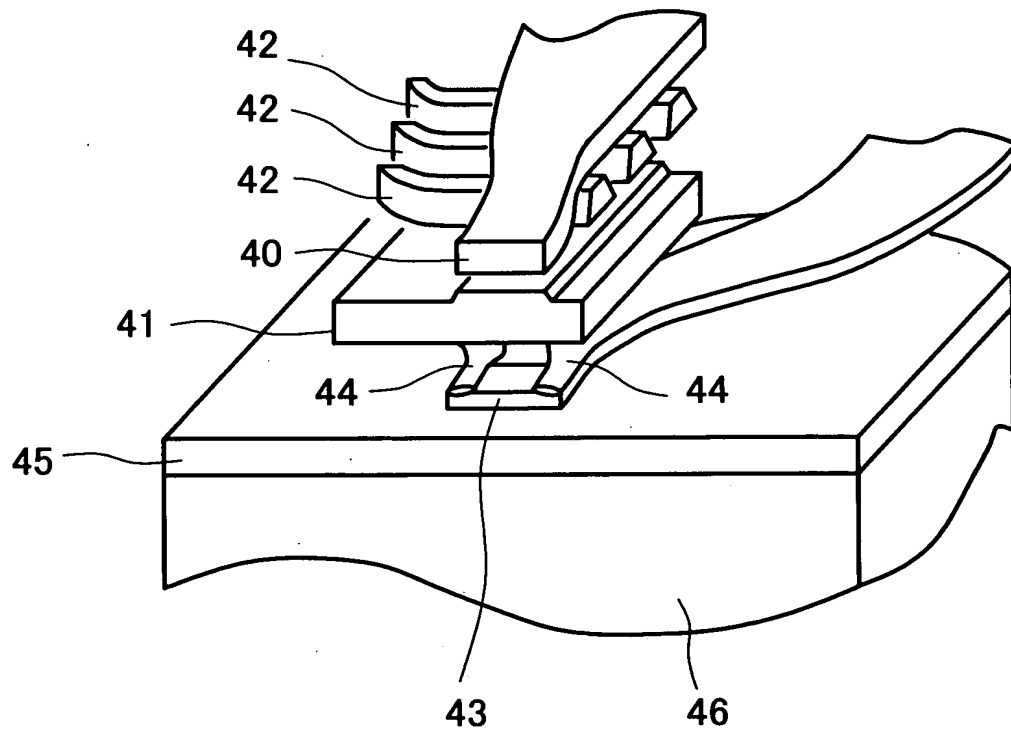


FIG. 4



$\frac{d}{dt} \left( \frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$

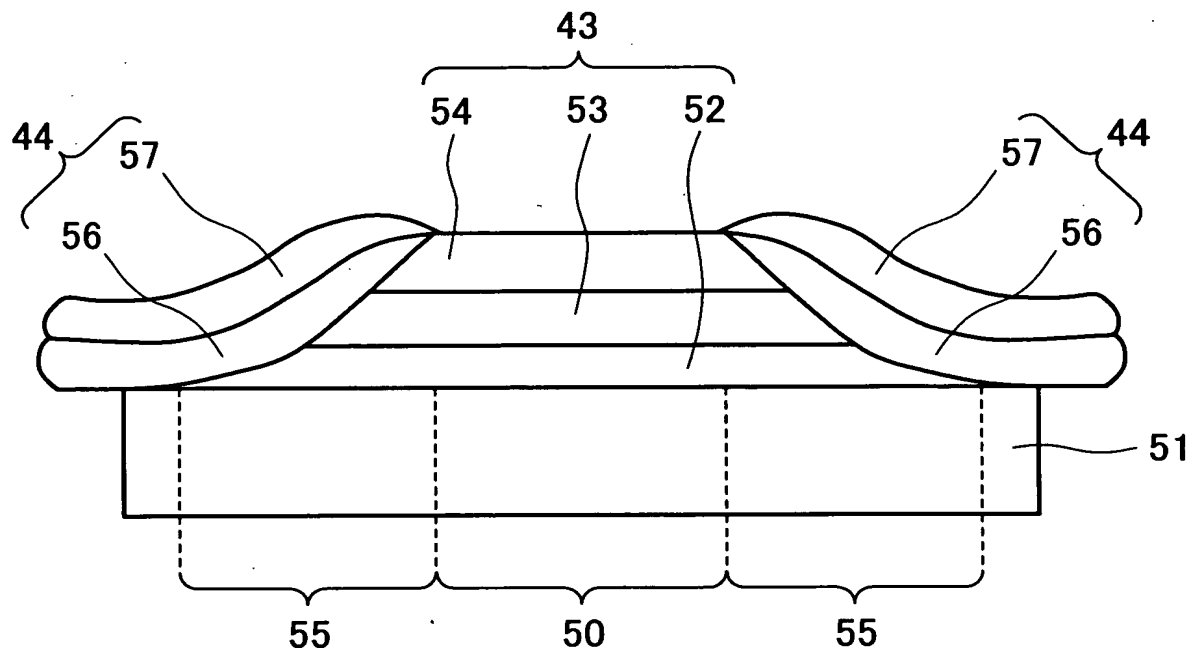


FIG. 6

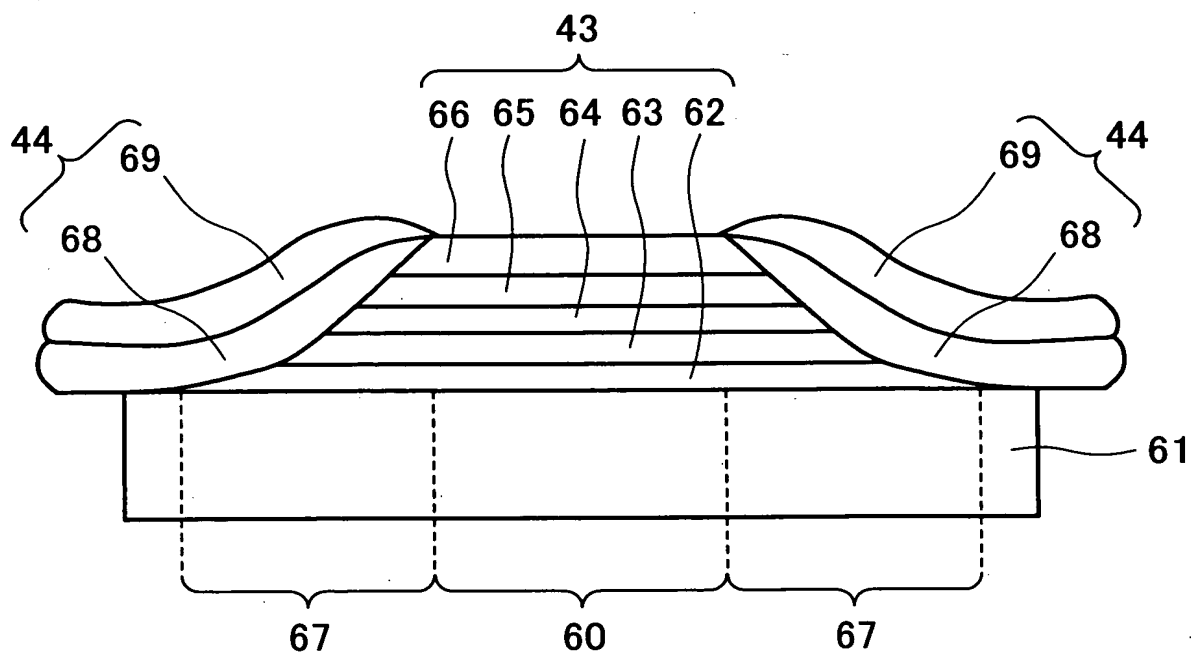


FIG. 7A

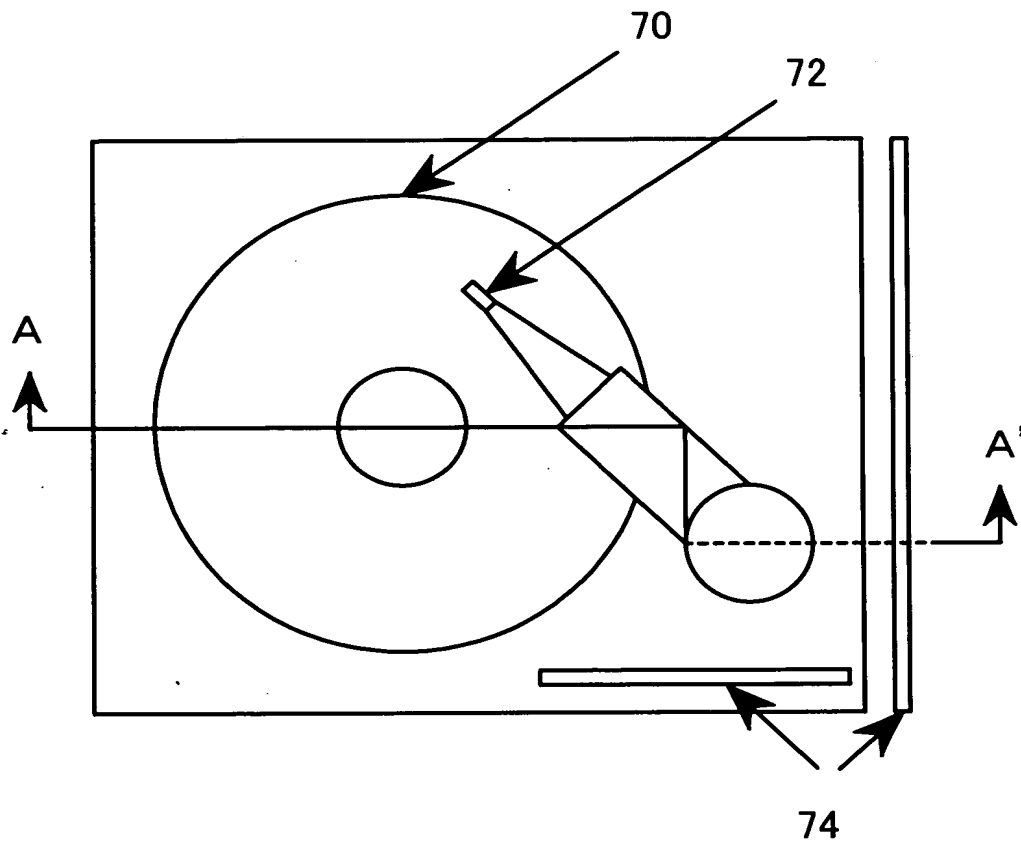


FIG. 7B

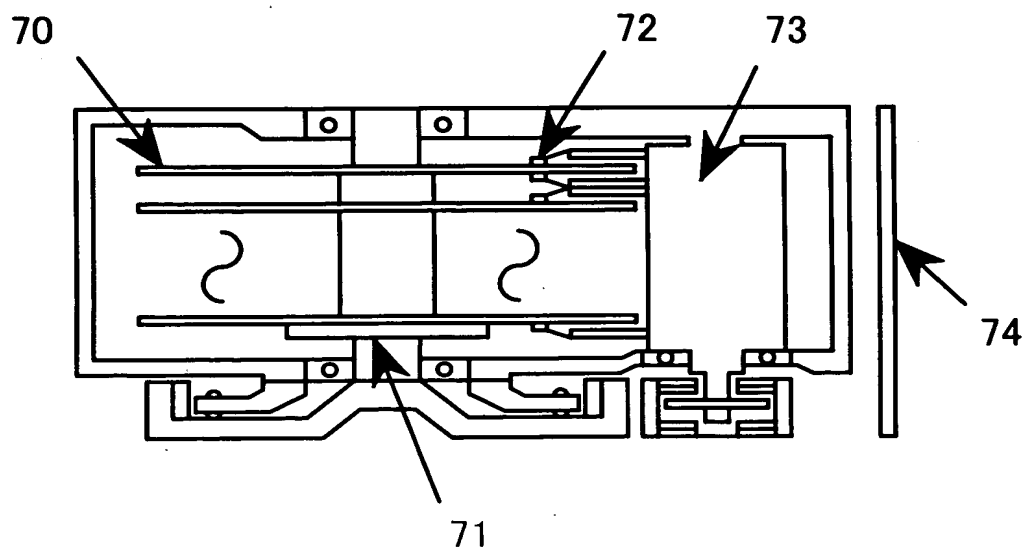


FIG. 8

	Hc[kOe]	S*	MEDIA NOISE
EXAMPLE 1	3.8	0.85	1.0
COMPARISON 1	3.0	0.70	2.0

FIG. 9

	C <sub>o</sub> C <sub>r</sub> P <sub>t</sub> (10,0) DIFFRACTION INTENSITY BY XRD (RELATIVE INTENSITY)
EXAMPLE 1	1.0
COMPARISON 1	0.7





FIG. 12

CRYSTAL STRUCTURE...L2<sub>1</sub>TARGET ...NiAl<sub>25</sub>Ti<sub>25</sub> (a=5.87 Å)

·NUMBER OF ATOMS  
IN UNIT CELL

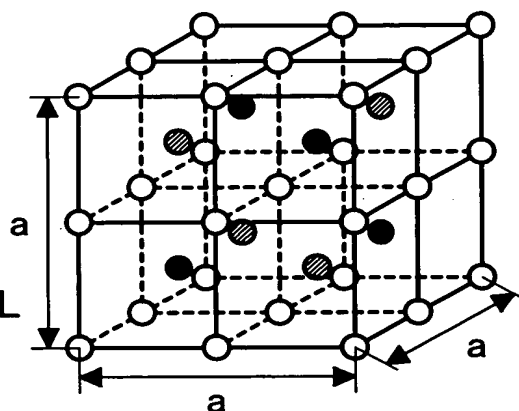
Ni ATOM : 8

Al ATOM : 4

Ti ATOM : 4

·COMPOSITION IN UNIT CELL

Ni:Al:Ti=2:1:1

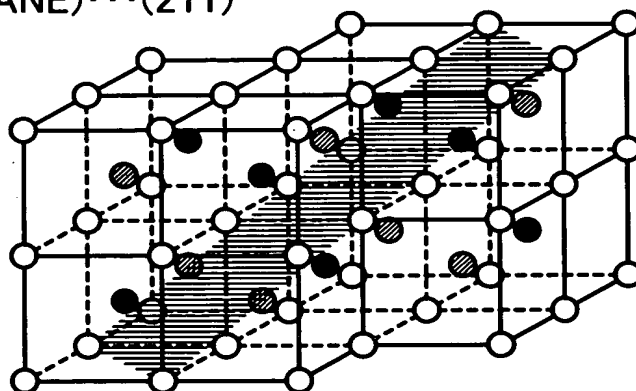


LATTICE PLANE PARALLEL TO THE SUBSTRATE SURFACE  
(ORIENTATIONAL PLANE)...(211)

○ Ni ATOM

● Al ATOM

● Ti ATOM



IN-PLACE CRYSTAL LATTICE

COMPOSITION IN UNIT CELL ...Ni:Al:Ti=2:1:1

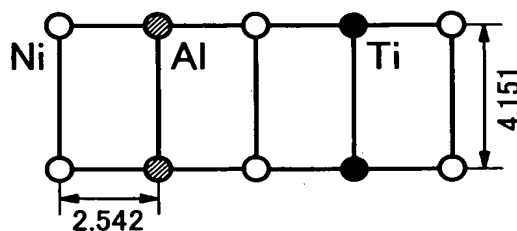


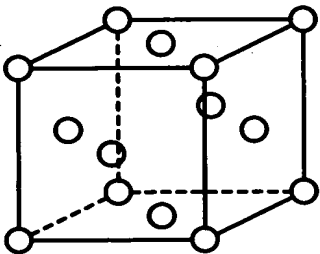
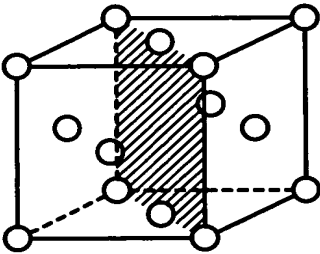
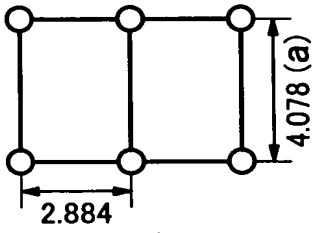
FIG. 13

	Hc[kOe]	S*	MEDIA NOISE
EXAMPLE 3	3.5	0.80	1.0
COMPARISON 3	3.0	0.70	1.7

FIG. 14

	C <sub>o</sub> C <sub>r</sub> P <sub>t</sub> (10,0) DIFFRACTION INTENSITY BY XRD (RELATIVE INTENSITY)
EXAMPLE 3	1.0
COMPARISON 3	0.7

FIG. 15

CRYSTAL STRUCTURE	LATTICE PLANE PARALLEL TO THE SUBSTRATE SURFACE (ORIENTATIONAL PLANE)	IN-PLACE CRYSTAL LATTICE
f.c.c. STRUCTURE Au $a=4.078 \text{ \AA}$ 	(110) 	 $(a\sqrt{2}/2)$

ELEMENT	$a \text{ \AA}$	$a\sqrt{2}/2 [\text{\AA}]$
Al	4.051	2.864
Cu	3.615	2.556
Rh	3.803	2.689
Pd	3.890	2.751
Ag	4.086	2.889
Ir	3.839	2.715
Pt	3.923	2.774
At	4.078	2.884

FIG. 16

	H <sub>c</sub> [kOe]	S*	MEDIA NOISE
EXAMPLE 4	3.2	0.80	1.0
COMPARISON 4	3.0	0.70	2.0

FIG. 17

	C <sub>o</sub> C <sub>r</sub> P <sub>t</sub> (10,0) DIFFRACTION INTENSITY BY XRD (RELATIVE INTENSITY)
EXAMPLE 4	1.0
COMPARISON 4	0.8

FIG. 18

